ment of ileus after a severe injury to a limb or after a simple abdominal operation. Spinal anesthesia acts by cutting off this reflex arc by (1) stopping the afferent stimulae, and (2) by blocking the efferent inhibitory splanchnics through the rami communicantes.

SUMMARY

A case is reported of paralytic ileus occurring in a patient with a megacolon which was completely relieved by spinal anesthesia. The conclusion is drawn that spinal anesthesia is a valuable method of treatment in only the paralytic type of ileus; and caution should be used in the proper selection of the case.[1]

384 Post Street.

REFERENCES

1. Duval, P.: In Intestinal Obstruction, Bull. et Mém. Soc. Nat. de Chir., 53:447, March 26, 1928.

2. Chenut, A.: Spinal Anesthesia in the Treatment of Acute Intestinal Obstruction, Bull. et Mém. Soc. Nat. de Chir., 53:169, February 19, 1927.

3. Lecene: Spinal Anesthesia in Acute Intestinal Obstruction, Bull. et Mém. Soc. Nat. de Chir., 53:448, March 26, 1927.

4. Riche: Intestinal Occlusion and Spinal Anesthesia, Bull. et Mém. Soc. Nat. de Chir., 53:451, March 26, 1927.

5. Markowitz and Campbell: Am. J. Physiol., 81, June 1927.

6. Bayliss, W. M., and Starling, E. H.: J. Physiol., 24:122. 1899,

7. Meltzer and Auer: Proc. Soc. Exper. Biol. and Med., 4:39, 1907.

ACUTE STREPTOCOCCIC LARYNGITIS IN CHILDREN*

REPORT OF CASES

By ROLAND P. SEITZ, M. D.
San Franciso

STANDARD reference books make little mention of streptococcic laryngitis, yet this disease is not infrequently seen and when severe it may cause alarming symptoms and rapid death. The reports of a severe and a mild case of this disease follow.

REPORT OF CASES

CASE 1.—K. N., male, age fourteen months, was attended during a gastro-intestinal disturbance in January, 1925, and a few months later during a mild upper respiratory infection. He had otherwise always been healthy and was breast fed until the age of eleven months.

April 26, 1925, the child spent the day at a beach. That evening he awakened at 10 p. m. with hoarseness and some difficulty in breathing. At midnight the symptoms had increased sufficiently to cause mild concern, but they were not alarming. Steam inhalations were ordered.

When first seen at 4 a. m., April 27 (four hours later), the patient was in distress. Respirations were rapid because of severe inspiratory obstruction, and the baby was pallid. Sufficient atropin was given to dilate the pupils, but there was no other effect. The patient was transferred to the hospital.

At 5 a. m. respirations ceased and the baby became livid. Oxygen, artificial respiration, and stimulation with caffein were employed, and the general condition improved. A direct laryngoscopy was done by Dr. S. v. Christierson, who made the following notes:

Smallest Jackson laryngoscope passed. The epiglottis is greatly swollen and congested. There is some superficial ulceration at the base; no membrane. Both arytenoids greatly swollen and red. The left vocal cord is normal except for slight congestion; the right is not seen because of local swelling of the false cords. The space between the cords is well opened when the epiglottis is retracted with the laryngoscope, and it is evident that the patient's dyspnea is due to the sucking in of the swollen epiglottis and arytenoids.

Cultures were taken directly from the larynx. They were subsequently reported negative for diphtheria, and a nonhemolytic streptococcus was the predominant growth.

At 8 a. m. intubation had proved unsuccessful and tracheotomy was done with striking improvement in the breathing. Diphtheria antitoxin totaling 30,000 units was given intramuscularly, but the patient became increasingly toxic, the fever mounted to 40.8 C. (105.4 F.) by rectum, and death occurred at 3:30 p. m.; about seventeen hours from the onset of the illness. Necropsy was not done.

CASE 2.—J. W., male, age three years, had never before been sick. He was given diphtheria toxin-antitoxin when one year old, but had not subsequently been tested for immunity. He was seen January 10, 1928, because of a slight cold of twenty-four hours' duration. During the previous night he awakened with hoarseness, and this was persistent. There was slight difficulty in breathing and the throat was moderately inflamed. Fever was slight. Later, the same day, the dyspnea increased and the patient entered the hospital. His color at this time remained good; his temperature was 38.8 C. (102 F.) rectally.

After direct laryngoscopy Doctor Christierson made the following notes:

There is edema of the vocal cords and the tissue of the glottis excepting the epiglottis, which is nearly free from it. No membrane is seen and there is no ulceration.

Throat cultures were twice negative for diphtheria. A direct culture from the larynx on a Loeffler slant showed mixed growth of various types of streptococci among which *Streptococci viridans* predominated. A moderate number of hemolytic streptococci (Beta of Brown) were seen, and there were also some colonies of nonhemolytic streptococci (Gamma of Brown). The blood count showed 11,000 leukocytes, and 79 per cent of these were polymorphonuclears.

Hoarseness and varying degrees of dyspnea continued for about forty-eight hours more, but the latter was not sufficiently severe to cause more than slight asphyxia. The temperature was essentially normal on the third day of the disease.

The grandmother of this patient, with whom he had been in close association, became similarly ill at about the same time and ran a nearly identical clinical course. She did not have a direct laryngoscopic examination.

COMMENT

Any virulent streptococcus may cause laryngitis, but such disease is often the direct extension downward of an acute tonsillitis or peritonsillar abscess. It may occur as a complication of scarlet fever and in influenza. Leigh[1] reported four cases with three deaths during a small epidemic of the latter. The symptoms in these cases were

[1] Since writing this paper we have had another case of preoperative paralytic ileus secondary to a generalized peritonitis from a perforated appendix, occurring in a man ninety years of age. Spinal anesthesia produced active peristalsis with the expulsion of enormous amounts of gas and fecal matter, so that the operation of appendectomy and drainage was technically simple. The patient made a complete recovery.

* From the Department of Pediatrics, Stanford University Medical School.

nearly identical with those described above in Case 1. In one of Leigh's cases it was found at necropsy that the swelling had closed the epiglottis and greatly distorted the vocal cords; in another the cords were the site of the greatest inflammation; and in the third case there was some degree of laryngitis, but obstruction was maximal near the bifurcation of the trachea.

In a severe case the symptoms of primary streptococcic laryngitis may be indistinguishable from those of laryngeal diphtheria, and it is probable that not a few are so diagnosed. All of Leigh's cases and one of the author's was given diphtheria antitoxin.

In infants and small children direct laryngoscopy is useful because it allows inspection of the diseased site, and this is otherwise impossible. Such inspection will differentiate the noninfectious types of laryngitis, and the absence of a membrane together with the striking fiery-red appearance of the edematous mucous membranes will suggest a streptococcic infection. Laryngoscopy permits the taking of direct smears and cultures, which will enable positive diagnosis. When done by a skilled operator, laryngoscopy will not superimpose any noteworthy degree of traumatic inflammation and an anesthetic is not required.

490 Post Street.

REFERENCES

1. Leigh, H.: Sudden Death from Acute Laryngeal Obstruction of Nondiphtheritic Origin, Southwestern Med., 11:210, May, 1927.

MULTIPLE POLYPS OF JEJUNUM—WITH INTUSSUSCEPTION*

REPORT OF CASE

By WILLIAM W. WASHBURN, M. D.
San Francisco

BECAUSE of the infrequency of intussusception of the small bowel, as well as the rarity of polyps in this location, the following case is presented:

REPORT OF CASE

Patient an Italian, male, laborer, age twenty-one. Entered the Southern Pacific General Hospital Sunday night at 11:30 p. m., August 11, 1928, and was seen shortly after entry to hospital.

History of Illness.—Patient stated that he was first taken ill thirty-six hours before entry. First symptom was severe pain across the upper abdomen which came on a half-hour after eating a hearty fish dinner. He vomited undigested food shortly after the onset of pain, and has vomited almost constantly since. Vomitus became bile-stained, but after twenty-four hours was of a brownish color with foul odor. He vomited castor oil which had been taken soon after he became ill. He was given an enema by a local nurse, after he had vomited the castor oil, which was followed by a small bloody bowel movement. Pain became generalized over the entire abdomen the night before entry to hospital. On entrance the pain was localized more in the left side of abdomen, opposite the umbilicus, and recurred at frequent intervals in paroxysms.

Patient stated that he had had 'spells of stomach upset" for past eighteen months characterized by abdominal cramps and nausea, occasionally by vomiting. These spells lasted from fifteen minutes to two hours, and in the past were always relieved by taking castor oil. Had never had bloody, clay-colored or tarry stools. He had no history of urinary frequency, burning, tenesmus, or hematuria. Had never been jaundiced. Appetite had always been good and had no constipation. Had always been very thin. Recalls no serious illness. No accidents. No operations.

Examination.—Showed a frail and somewhat emaciated patient apparently in severe pain with drawn facies. Skin dry. Tongue dry and furred. Breath, foul odor. Head, neck, chest, heart, etc., essentially negative.

Abdomen.—There was a noticeably rounded tumefaction just to the left of the umbilicus. No definite peristalsis was noted. Palpation showed rounded mass about the size of a large grapefruit, slightly movable and extremely painful to palpation, which did not extend to the loin or costovertebral angle. No other masses felt. No tenderness in the epigastrium or at McBurney's point. Percussion note over the mass, flat. Upon rectal examination no masses or loops of distended bowel were felt. Pulse rate, 130; poor quality. Respiration, 38. Temperature, normal. White blood count, 4600—white cells with 72 per cent polymorphonuclears, 20 per cent lymphocytes, and 8 per cent large and transitional mononuclears.

Preoperative Diagnosis.—Intestinal obstruction. Volvulus, intussusception or old peritoneal bands were considered as causes in the order named. Because of dehydration and poor condition, the patient was given 1500 cc. of normal salt solution, also gastric lavage. Preoperative hypodermic of morphin grain 1/6 with atropin grain 1/200.

Operation was done under nitrous oxid-oxygen anesthesia. A long right rectus incision was made. Upon opening the abdomen there was a moderate increase of peritoneal fluid which was clear and straw-colored. A large purplish discolored mass of greatly distended intestine was seen when the rectus muscle was retracted medially. The entire mass was delivered outside the abdomen, after enlarging the incision to about fifteen centimeters in length, and it was immediately seen that intussusception had occurred high up in the small bowel. Upon closer examination it was apparent that there were multiple intussusceptions of the upper portion of the jejunum. The two lower ones were reduced by gentle traction. The upper and larger one was irreducible and greatly discolored. The lower one, which was reduced, consisted of a double invagination, so that the bowel wall below, after reduction, was greatly discolored and stretched to the size of a coat sleeve. On palpation a few inches above the irreducible mass a small tumor was felt resembling impacted bowel content. Movement of the mass was restricted and the bowel wall definitely dimpled in with downward traction on the mass. Three similar masses were also felt lower in a portion of the intestines which had been reduced of a double invagination. Because of the one irreducible intussusception present, as well as the poor nutrition of the bowel below, which also contained tumefactions, a resection was necessary. (Patient's condition was fair and 1000 cc. of 5 per cent glucose and Ringer's solution was given intravenously during operation.) Resection of a little over five feet of jejunum was done commencing above the first tumor mass which was felt about twelve inches from the duodenum, and lateral anastomosis done as quickly as possible. Abdomen was closed in the usual manner.

Following operation patient was given stimulants and large quantities of glucose and normal salt solu-

* From the Department of Surgery, Southern Pacific General Hospital, San Francisco.